

2:

A:

I: the alternative way of computing them was using a triangular array

ii:

iii: 1.0001, 1.0100, 1.0111, 1.1010, and 1.1101

iv: 4

B:

I: a rocket exploded 37 seconds after launch, The error was faulty handling of an overflow message by the chip that led for a mishap of information being sent to the rocket nozzels, causing the explosion.

Ii: I think that the error was mostly a problem with a hardware because the system would not of had to send the error in the first place if it was able to handle the change in floating variable correctly.

3:

function VirtualPest(): virtualpest function will create the values Hunger, Love, feedTime, petTime, exciteTime, State,

function Initialize(): sets state of pest to "Done", sets the display to the Done.png, sets the feedTime, petTime, and exciteTime to zero

function Display(): displays the state, has the pet action to standing, sets the pet sound to "yo, meow"

function Simulate(): checks the amount of time difference there is between the different time variables and the current time and changes the state, sound, action, and display of the pest accordingly

function Pet(): adjusts the petTime to the current time, and based on the love variable, may cause the exciteTime to be set to current time. And then changes the display and state, as well as any other variables accordingly based on the affects of pet.